

Daniele De Martini

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CURRICULUM VITAE

FORMAZIONE

- Dottorato di Ricerca in Epidemiologia Clinica Metodologica, Università di Genova, 1997. (Tesi: Metodi per il calcolo della potenza e per la determinazione della dimensione campionaria per test non parametrici. Relatori: Prof. V. Balestra, Prof. F. Pesarin.)
- Laurea in Matematica, Università di Genova, 1991. (Tesi: Il Bootstrap di Efron: procedure e consistenza asintotica. Relatore: Prof. G. Pistone.)

INCARICHI ACCADEMICI

- Professore Associato di Statistica, Università degli Studi di Genova, 2022-presente.
- Professore Associato di Statistica, Università degli Studi di Milano-Bicocca, 2014-2022.
- Ricercatore di Statistica, Università degli Studi di Milano - Bicocca, 2010-2014.
- Ricercatore di Statistica, Università del Piemonte Orientale, 1998-2010.
- Docente di Statistica, Université de Nice Sophia-Antipolis, I.U.T. - S.T.I.D. (Statistique et Traitement Informatique des Données), 1998-2005.
- Professore a contratto di Statistica, Università di Genova, 1997-98.

PERIODI DI STUDIO ALL'ESTERO

- 2010, July-August: Department of Statistics, Stanford University – Palo Alto (CA).
- 2006, August-September: Dep. of Statistics, Stanford University – Palo Alto (CA).
- 2005, October: Department of Medical Epidemiology and Biostatistics, Karolinska Institutet - Stockholm (Sweden).
- 2005, August-September: Dep. of Statistics, Stanford University – Palo Alto (CA).

ADESIONI AD ASSOCIAZIONI

- Italian Statistical Society - SIS www.sis-statistica.it/
- American Statistical Association -ASA www.amstat.org/
- Society for Clinical Trials - SCT www.sctweb.org/
- Drug Information Association - SCT www.diaglobal.org/

ATTIVITÀ ACCADEMICHE

- Reviewer for the American Mathematical Society - AMS, 2004-2013.
- Reviewer for the following Journals: *The American Statistician* (TAS); *Journal of Statistical Planning and Inference* (JSPI); *Journal of Statistical Computation and Simulation* (JSCS); *Statistica e Applicazioni*; *International Journal of Medical Informatics*; *Therapeutic Innovation & Regulatory Science* (TIRS); *Biometrical Journal*.

FINANZIAMENTI

- Università del Piemonte Orientale grants for international mobility (2005, 2006).
- Italian Ministry for University and Scientific Research, PRIN07 grant: “Statistical methods for learning in clinical research”, (2007-2009).
- Italian Ministry for University and Scientific Research, PRIN99 grant “Statistical methods for complex and multivariate problems” (1999-2001).

CONTRIBUTI DI RICERCA

Libri

- “Success Probability Estimation with Applications to Clinical Trials”; *John Wiley & Sons, Hoboken - NJ*, 2013.
- “Inferenza Statistica: Un’introduzione per le scienze economiche e aziendali”; *Società Editrice Esculapio*, 2024.

Pubblicazioni su riviste

- “Innovazioni didattiche nell’insegnamento Statistica Inferenziale, presso l’Università di Milano-Bicocca”, with Francesca Gorini. *I Quaderni del GLIA – Genova University Press*; 4 (4) 2025: Dalle politiche alle pratiche. La professionalità docente nell’evoluzione istituzionale e tecnologica.

- “Phase III Failures for a Lack of Efficacy can be, in Significant Part, Recovered (Introducing Success Probability Estimation Quantitatively)”; *Epidemiology Biostatistics and Public Health (EBPH)*; 18 (1), 2023. DOI :10.54103/2282-0930-20638.
- “Improving Reproducibility Probability estimation, preserving RP-testing”; with L. De Capitani; *Statistical Methods and Applications (SMA)*; 30, 49-77, 2021. DOI :10.1007/s10260-020-00513-x.
- “Empowering Phase II Clinical Trials to Reduce Phase III Failures”; *Pharmaceutical Statistics*, vol. 19 (3), 178-186; DOI: 10.1002/pst.1980, 2020.
- “Phase III Failures for a Lack of Efficacy can be, in Significant Part, Recovered”; *Social Science Research Network (SSRN)*, 2019.
- “Phase III sample size based on the ‘power to detect’ is logically wrong and usually unethical”; *Social Science Research Network (SSRN)*, DOI: 10.2139/ssrn.3328810, 2019.
- “Reproducibility Probability Testing Kills P-value”. *Social Science Research Network (SSRN)*, DOI: 10.2139/ssrn.32955232018, 2018.
- “Computing individual and collective ethical utility for optimally planning phase III trials”, with L. De Capitani; *Biometrical Journal*, vol. 60 (6), 1121-1134. DOI: 10.1002/bimj.201800042, 2018.
- “Reproducibility Probability Estimation and RP-Testing for some nonparametric tests”, with L. De Capitani; *Entropy*, Special Issue on *Statistical Significance and the Logic of Hypothesis Testing*, vol. 18 (4), n° 142, doi:10.3390/e18040142, 2016.
- “Profit Evaluations when Adaptation by Design is Applied”; *Therapeutic Innovation and Regulatory Science*, vol. 50 (2), 213-220, 2016.
- “Reproducibility probability estimation and testing for the Wilcoxon rank-sum test”, with L. De Capitani; *Journal of Statistical Computation and Simulation*, Vol. 85 (3), 468-493, 2015.
- “Allocating the Sample Size in Phase II and III Trials to Optimize Success Probability”; *Epidemiology, Biostatistics and Public Health*, Vol.11 (4), 2014.
- “Stability Criteria for the Outcomes of Statistical Tests to Assess Drug Effectiveness with a Single Study”; *Pharmaceutical Statistics*; Vol. 11, 273-279, 2012.
- “Power Estimation for Multiple Co-Primary Endpoints: a comparison among conservative solutions”; with A. Lucadamo, N. Accoto; *Italian Journal of Public Health*; Vol. 9 (4), 2012.

- “Robustness and corrections for sample size adaptation strategies based on effect size estimation”; *Communications in Statistics - Simulation and Computation*; Vol. 40 (9), 1263-1277, 2011.
- “Adapting by calibration the sample size of a phase III trial on the basis of phase II data”; *Pharmaceutical Statistics*; Vol. 10 (2), 89-95, 2011.
- “Conservative sample size estimation in nonparametrics”; *Journal of Biopharmaceutical Statistics*; Vol. 21. (1), 24-41, 2011.
- “On stochastic orderings of the Wilcoxon rank sum test statistic - with applications to reproducibility probability estimation testing”, with L. De Capitani; *Statistics and Probability Letters*; Vol.81, 937-946, 2011.
- “Evaluating the Risk in Sample Size Determination”. *Communications in Statistics - Simulation and Computation*; Vol. 37, n.9, pp. 1776-1784, 2008.
- “Reproducibility probability estimation for testing statistical hypotheses”. *Statistics and Probability Letters*; Vol. 78, n.9, pp.1056-1061, 2008.
- “On multivariate smoothed bootstrap consistency”, with F. Rapallo; *Journal of Statistical Planning and Inference*; Vol.138, n.6, pp.1828-1835, 2008.
- “Correcting Bias in Sample Size Estimation”. *Statistica Applicata*; Vol.19, n.2, 2007.
- “Copula-based models for the power of independence tests”, with E. Vespa; *Communication in Statistics – Theory and Methods*; Vol.34, n.12, pp. 2283-2297, 2005.
- “Pointwise estimate of the power and sample size determination for permutation tests”. *Statistica* (Bologna); LXII, n.4, pp.767-778, 2002.
- “On unbiasedness and power of permutation tests”, with F. Pesarin; *Metron*; Vol.LX, n.1-2, pp.5-22, 2002.
- “Calculating the power of permutation tests: a comparison between nonparametric estimators”, with F. Rapallo; *Journal of Applied Statistical Science*; Vol.11, n.2, pp.111-122, 2002.
- “Smoothed bootstrap consistency through the convergence in Mallows metric of smooth estimates”. *Journal of Nonparametric Statistics*; Vol.12, pp. 819-835, 2000.
- “A theoretical four-compartment model to evaluate separate kidney technetium ^{99m}MAG3 kinetics in humans”, with Curti G., Santaniello B., Taddei G., Fresco G.F.; *Kidney International*; Vol.54; pp. 2029-2036; 1998.

- “Nitric oxide modulates in vivo and in vitro growth hormone release in acromegaly”, with Cuttica C.M., Giusti M., Bocca L., Sessarego P., Valenti S., Spaziante R., Giordano G.; *Neuroendocrinology*; 66: pp. 426-431; 1997.
- “Effects of Sumatriptan on GHRH stimulated GH secretion in acromegaly”, with Giusti M., Cuttica C.M., Sessarego P., Ponzani P., Falivene M.R., Valenti S., Giordano G.; *Recenti Progressi in Medicina*; Vol.88, No.6; 1997.
- “Prolactin decrease and shift to a normal-like isoform profile during treatment with Quinagolide in a patient affected by an invasive prolactinoma”, with Guido R., Valenti S., Foppiani L., Cossu M., Giusti M.; *Journal of Endocrinological Investigation*; 20 (5); pp.289-293; 1997.
- “Looking for Statistical Stability: a New Method of Evaluating Reliability of Statistical Tests”. *Journal of Biological Research – Boll.Soc.It.Biol.Sper.*; Vol.LXXII, pp. 179-186, 1996.
- “Quantitative analyses of plasma opsonizing activity and polymorphonuclear cell response during phagocytosis: standardisation of a chemiluminescent method”, with Farinelli A., Setti M., Puppo V., Scudeletti M., Balestra V., Indiveri F.; *Acta Pathologica, Microbiologica et Immunologica Scandinavica (APMIS)*; 104, pp. 500-508; 1996.

CONFERENZE E SEMINARI

- “Reproducibility Probability: logic, techniques and applications”. Dipartimento di Statistica e Metodi Quantitativi - Università di Milano-Bicocca, Italy, July 2025.
- “Competenze da preservare e potenziare, complementari all’AI: la Didattica del Residuo”, with Francesca Gorini. *Convegno Nazionale sul Faculty Development*; Genova, Italy, Giugno 2025.
- “Concentration Indexes from the Geometric Perspective. *Convegno SIS 2025: Statistics for Innovation*; Genova, Italy, Giugno 2025.
- “Alcune innovazioni didattiche nel corso di Statistica Inferenziale, presso l’Università di Milano-Bicocca”; with Francesca Gorini. *5° Convegno Nazionale sul Faculty Development*; Genova, Italy, Giugno 2024.
- “Empowering Phase II Clinical Trials to Reduce Phase III Failures”. *30th Annual European Meeting, Drug Information Association*; Basel, Switzerland, April 2018.
- “Optimal Ethical Balance for Phase III Trials Planning”, with L. De Capitani. *53rd Riunione Scientifica della Società Italiana di Statistica*; Firenze, Italy, June 2017.

- “Improving RP estimation and preserving RP-testing, through the introduction of some new families of estimators”, with L. De Capitani. *XVIII Workshop on Quantitative Finance*; Milano, Italy, January 2017.
- “RP-estimation and testing for some common nonparametric tests”. *Joint Meeting of International Biometric (IBS) Swiss-Austro and Italian Regions*; Milano, Italy, June 2015.
- Satellite Course for the Society for Clinical Trial - SCT: “Adaptive Designs: Overview, Hurdles, Examples & Software”. *36th Annual Meeting, Society for Clinical Trials*; Arlington – Virginia (USA), May 2015.
- “Profit Evaluations when Adaptation by Design is Applied”. *27th Annual European Meeting, Drug Information Association*; Paris, France, April 2015.
- “Allocating resources in Phase II and III Trials to Optimize Gain through Adaptation by Design”. *35th Annual Meeting, Society for Clinical Trials*; Philadelphia – Pennsylvania (USA), May 2014.
- “Reproducibility Probability Estimation and Testing for some common nonparametric tests”; with L. De Capitani. *46^a Riunione Scientifica della Società Italiana di Statistica*; Roma, Italy, June 2012.
- “Reproducibility Probability Testing for the Wilcoxon rank-sum test”; with L. De Capitani. *45^a Riunione Scientifica della Società Italiana di Statistica – Riunione satellite - Padova: Statistica per problemi complessi*; Padova, Italy, June 2010.
- “On power estimation – with applications to clinical trials”. Department of Statistics - Stanford University; California (USA), August 2010.
- “New methods for estimating the sample size of an experiment with binary random outcome”. Enginsoft CAE (Computer Assisted Engineering) users meeting; Stezzano, Italy, October 2007.
- “On the stability of statistical test results”. Department of Statistics - Stanford University; California (USA), August 2006.
- “On the Stability of Statistical Tests”. *Joint Statistical Meeting of the American Statistical Association*; Seattle – Washington (USA), August 2006.
- “Reproducibility Probability in Nonparametric Tests”. *27th Annual Meeting, Society for Clinical Trials*; Orlando – Florida (USA), May 2006.
- “Reproducibility Probability Estimation for the Wilcoxon-Rank-Sum Test”. *XLIII Riunione Scientifica della Società Italiana di Statistica*; Torino, Italy, June 2006.

- “Grid Based Full Portfolio Revaluation for VaR Computation”; with Fusai G., Chinelli R., Longo G., Marena M., Mariano L., Cappuccio R., Sgherri R., Regini L., Chierici W., Cocca E. *Proceeding of Science; Grid Technology for Financial Modeling and Simulation*; Palermo, Italy, February 2006.
- “Nonparametric Sample Size Estimation”. *26th Annual Meeting, Society for Clinical Trials*; Portland – Oregon (USA), May 2005.
- “Estimating Sample Size and Reproducibility in Nonparametrics”. Department of Medical Statistics - University of Wien; Wien, Austria, November 2005.
- “Sample Size Estimation and Reproducibility Probability in Nonparametrics”. Department of Epidemiology and Biostatistics - Karolinska Institute; Stockholm, Sweden, October 2005.
- “Bootstrap Confidence Intervals for the Power of Statistical Tests” Department of Statistics - Stanford University; California (USA), September 2005.
- “Nonparametric estimation of the sample size”. Department of Mathematics - Politecnico di Torino; Torino, Italy, April 2005.
- “A general method for estimating the power of statistical tests”. Department of Mathematics - Università di Genova; Genova, Italy, October 2004.
- “The Emotionality of the p-Value, the Rationality of the Post-Hoc Power: How to Interpret the Results of Statistical Tests”. D. *XLII Riunione Scientifica della Società Italiana di Statistica*; Bari, Italy,, June, 2004.
- “Copulas and Independence Tests”. Department of Mathematics - Politecnico di Torino; Torino, Italy, February 2003.
- “Theoretical Aspects of Power Estimation for Permutation Tests”. Department of Probability and Statistics - Université Paris-VI; Paris, France, February 2002.
- “Exact conditional inference on h -sample problems for categorical data using algebraic algorithms”; with F. Rapallo. *XLI Riunione Scientifica della Società Italiana di Statistica*; Milano, Italy, June 2002.
- “Modeling Bivariate Dependence - with application to efficiency of dependence tests”; with E. Vespa. *XLI Riunione Scientifica della Società Italiana di Statistica*; Milano, Italy, June 2002.
- “Bootstrap Estimate of the Power and Sample Size Determination for Permutation Tests”. *XL Riunione Scientifica della Società Italiana di Statistica*; Florence, Italy, April 2000.

- “Nonparametric Power Computation for Permutation Tests”. University Center for Statistics – Katholieke Universiteit; Leuven, Belgium, August 2000.
- “Smoothed Bootstrap on the Correlation Model, with MCMC Numerical Computation”; with F. Rapallo. *SCO99: Modelli Complessi e Metodi Computazionali Intensivi per la Stima e la Previsione*; Venice, Italy, September 1999.
- “Discriminant Analysis”. Institute of Statistics - Università di Genova, Italy, May 1994.
- “The Bootstrap method”. Institute of Statistics - Università di Genova, Italy, June 1992.

SOFTWARE

- *SP4CT – Success Probability for Clinical Trials (2014)*.
SP4CT è un'applicazione web (implementata in Ruby-on-rails) che mostra il comportamento degli stimatori della dimensione del campione per le sperimentazioni di fase III, le probabilità di successo delle sperimentazioni di fase II e di fase III e la casualità dei profitti nello sviluppo dei farmaci.
- *NP-SIZE – Sample size for nonparametric tests (2000)*.
NP-SIZE è un semplice strumento DOS (implementato in Fortran99) con un'interfaccia intuitiva, per calcolare la dimensione del campione per test non parametrici sulla base di dati pilota. NP-SIZE integra tecniche bootstrap per il calcolo della dimensione del campione.

Conferenze e seminari relativi ai software

- “The software SP4CT: success probability for clinical trials”. *PCT Conference 2016* (Partnership in Clinical Trials); Vienna, Austria, November 2016.
- “The program NP-SIZE: new features for power computation on nonparametric tests”. *COMPSTAT2002*; Berlin, Germany, August 2002.
- “NP-SIZE: a Program to Compute Power and Sample Size for Nonparametric Tests”. *COMPSTAT2000*; Utrecht, Netherland, August 2000.

ALCUNE MENTORIZZAZIONI E SUPERVISIONI DI RICERCATORI A CONTRATTO

- F. Rapallo: "The linear model under weak hypothesis: a smoothed bootstrap approach, with MCMC computation ", 1997/1998, Università di Genova, Italy.
- E. Vespa: “Dependence functions and nonparametric dependence tests”, 2001/2002, Università di Genova, Italy.
- L. De Capitani: “Nonparametric statistical methods for geography and tourism”, 2009-2010, Università del Piemonte Orientale, Italy.
- N. Accoto: “Statistical methods for estimating the experimental sample size”, 2009-2010, Università del Piemonte Orientale, Italy.

- L. De Capitani: “Reproducibility Probability Estimation: theory and application in biostatistics and finance”, 2013-2017, Università degli Studi di Milano-Bicocca, Italy.

ATTIVITÀ DIDATTICHE

Università degli Studi di Genova, Dep of Economics

- “Statistics – basic course”, 2022-present.
- “Economic Statistics – inferential methods”, 2022-present.

Università degli Studi di Milano–Bicocca, Faculty of Economics

- “Statistical Methods”, 2014-2022.
- “Probability, Distributions and Multiple Regression”, 2011-2013.
- “Industrial Statistics”, 2010-2022.

Università del Piemonte Orientale, Faculty of Economics

- “Statistics – basic course”, 1999-2010.
- Master in *Management of financial traders*: “Quantitative methods for finance”, 2004-2010.
- “Quantitative methods for tourism”, 2007-2010.
- Master in *Companies economics and management*: “Quantitative methods for market analysis”, “Sampling techniques”, “Statistical quality control”, 2003, 2004.

Université de Nice Sophia-Antipolis (France), I.U.T (Institute Universitaire Technologique) S.T.I.D (Statistique et Traitement Informatique des Données)

- “Sampling techniques”, 2003-2005.
- “Statistical quality control”, 2002.
- “Forecasting methods for data-mining”, 1999-2001.
- “Estimation theory, confidence intervals, hypothesis testing”, 1998, 1999.

Università di Genova, Faculty of Biology

- “Applied statistics with Minitab”, 1995-1998.

Università di Genova, Faculty of Economics

- “An introduction to probability”, 1998.

In fede

Daniele De Martini

